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ProLase for Window's 95 Features

ProLase for Window's 95 is a high end laser marking software package featuring ease of use, high performance, flexibility and low cost. Designed to be both a retro-fit package and the original software on new machines, ProLase can support a large variety of galvanometric hardware configurations, including most existing laser marking systems, marking heads and lasers. **Both analog and digital interfaces are supported, for galvo/servo systems by Cambridge Technology, General Scanning, and SCANLAB. Note: Almost all galvo based laser marking system manufacturers use core technologies from one of these three galvanometer manufacturing companies.

A wide variety of lasers are supported including Q-switched Nd:YAG lasers from Lee Laser Inc. and sealed, RF excited, CO2 lasers from Coherent. These are the types of lasers most often used in laser marking systems.

X/Y Galvo Interface (requires one of the following):

- Analog 12 bit Computer Boards CIO-DDA06/12
 - Analog 12 bit Scientific Solutions DADIO
 - Analog 16 bit Computer Boards CIO-DDA06/16
 - Digital 16 bit SCANLAB PC1000
 - *Digital 32 bit Computer Boards DIO48
 - *Digital 16 bit multiplexed CBI DIO48
 - * Almost any 8255 based Digital I/O card with a minimum 48 bits can be used.
 - ** ProLase SL only supports the PC1000 SCANLAB interface.
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Laser Interfaces (Nd:YAG and CO2):

- Digital high speed, First Pulse Suppression (completely user tunable)
 - Digital Q-Switch frequency and Pulse Width Control
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 - Digital Tickle (variable frequency)
- Digital Pulse Width Modulation (variable frequency, no external PWM electronics is required, saving \$500+ on the CO2 laser purchase)
- Digital Gate

- Digital Input and Output (8 bits each) for parts handler, and misc. laser control

Analog Power Control

Analog Q-Switch frequency Control

ProLase can be easily calibrated for control of Power, Frequency and Focus. Calibration allows marking jobs to be moved from one system to another without changing parameters, even if the systems use lasers of different power ratings, or use different focus mechanisms.

Periodic calibration can also compensate for power degradation over time (for example flashlamp, or CO2 gas aging).

Machine/Parts Handler Control:

Digital Input and Output (8 bits each, user programmable)

- Part detection
- Start mark signal
- Abort mark signal
- Interlock detection
- Mark in progress signal
- Mark complete signal
- Conditional Object Marking
- Process synchronization
- Multi-sided parts
- Analog Focus Control
- Programmable Timer Delays
- Many other uses

The hardware required for these features are low cost, off the shelf, general purpose interface cards that easily install on your PC bus. We support interface cards from large manufacturers like Computer Boards Inc., Metabyte, and Scientific Solutions. Using off the shelf cards manufactured in very large quantities, you don't have to worry about proprietary electronics that become obsolete and unsupported. High volume, off the shelf cards are also much cheaper than proprietary boards (approximate prices):

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|--------------------|----------------------|
| ● DAC Card 12-bit | \$350 |
| DAC Card 16-bit | \$800 |
| Counter Timer Card | \$140 <u>CIO-CTR</u> |

All of these cards can be purchased from Digital Distributors, be sure to mention you are an American LaserWare customer, you will be offered a special discount. Please note that some TTL outputs may require signal conditioning and we strongly suggest that optoisolation be used for all digital I/O. All of the supported board manufacturers offer accessories that perform these functions.

Mark Field Control:

ProLase has a variety of features that can be used to control the configuration of the marking field area and motion control hardware. These features allow ProLase to be customized for the specific optical and galvanometric situation. Our graphic engine provides high speed, and flexible motion control that can be user optimized for maximum performance:

- Square or Circular fields are supported. (Circular fields provide more marking area than square fields using the same lens.)
- Variable field orientation:
 - Swap X/Y
 - Negate X
 - Negate Y
- Field position and angular offsets.
- English and metric units.
- Resolutions down to .0001 cm, and field sizes up to 32 meters square.
- User Configurable grids, with snap. Both linear and rotational grids are provided.
- Pincushion and barrel distortion correction.
- Galvo lag compensation delays for the system as a whole.
- Galvo lag compensation adjustments for individual objects.
- Slew rate limited, high speed positioning minimizes "ringing".
- Output rates of up to 70,000 coordinate pairs per second.
- Writing throughput of 200+ characters per second (.1" high, simplex font).
- Motion step size resolution at 1 LSB.
 - True arc generation (Circular interpolation).
 - Vector fills with kerf compensation, and density:
 - True Type Fonts

- ID Matrix 2-D code
 - Bar Codes
 - Cross hatch and hatch angle control:
 - True Type Fonts
 - Wobble Control with variable width, user selectable density and shape:
 - Sine wave
 - Square wave
 - Saw tooth
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User Interface

- Standard Window's 95 menu system. Application size and location are memorized between invocations.
- Dockable Toolbars for common functions. Toolbar locations are memorized between invocations.
- "Right Click" property access and power menus. Property access for parts programs, Layers and Objects.
- Multiple Document and View interface.
- Cut, Copy, Insert, Replace, Duplicate and Undo Functions.
- Background Layers, allows for display of part images, job annotations, and special operator instructions.
- User configurable Multiple Layer combination views. Allows for viewing different aspects of a part with mark data and background.
- Zoom functions.
- "Smart graphic handles", allows for direct manipulation of the object itself, not just a bounding box:
 - anchor points
 - positioning
 - sizing
 - stretching
 - rotation
 - tilt
 - Center of ring rotation (ring mode objects)
- Advanced bounding boxes rotate in frame of reference of the Object (not the CRT). Ring mode bounding box is a ring, not a rectangle. Greatly simplifies mouse manipulation of Objects at angles or in ring mode.

- Layer/Object layout box provides a text view of the parts program as a tree structure. Cut, Insert, Replace, Layer creation, Object creation and property access are provided within the tree.

Material and Fixture file editors.

- I/O monitor, displays the current state of all digital and analog I/O signals.
 - Job scheduler, with auto batch capabilities.
 - ProLase 2, ALI file importer.
 - Print function.
 - Mark Dialog with Auto, Manual, "Light Show", Batch, and Setup marking modes..
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Object Types

- Fixed Text
- Dynamic Text:
 - Keyboard Input with prompting
 - Alphanumeric serialization with programmable auto reset, increment, prompting.
 - Date/Time coding
 - RS-232
 - Disk file
 - User specified EXE or DLL call
- Graphic imports, 23 vector formats including:
 - TP1, ALG - American LaserWare
 - PLT, HGL - Hewlett Packard
 - AI - Adobe Illustrator
 - CDR, CMX, WPG - Corel
 - CGM - Computer Graphics Metafile
 - DRW, DSF - MicroGrafx Designer
 - DWG, DXF - AutoCad
 - EMF, WMF - Window's Metafile
 - EPS - Encapsulated PostScript
 - GEM - Graphics Environment Manager
 - IGS - Initial Graphics Exchange Specification
 - MET - OS/2 PM Metafile
 - PDF - Portable Document Interface
 - PIC - Lotus 123

PIC - Machintosh

WPG - Word Perfect

Data Link

- File Object
 - Local Object
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Object Control

- All Objects
 - Position
 - Size
 - Aspect
 - mirror X or Y
 - Rotation Angle
 - Tilt Angle
 - Vertical and Horizontal Justification with auto anchoring
 - Line Width (Wobble)
- Text Objects
 - Kerning fractions (True Type)
 - Ring Mode
 - Character spacing
 - Line Spacing
- Fonts
 - True Type
 - Engraving fonts including single, double line. Helvetica, OCR, Script, Cursive, Roman, Simplex, Complex, etc.
 - ID Matrix, 2D Symbology
 - Bar Codes, 23 formats including: 39, 93, 2 of 5, 128, UPC, etc., normal, reverse, quiet zones, check sum, completely tunable.

Simply Download this self extracting installation program and run. (Last Update 07/24/00)

ProLase for Windows 95 Demo

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